



COMPILATION OF COMMENTS ON COMMITTEE DRAFT (CC)

PROJECT NUMBER:

IEC 60079-25 ED3

DATE OF CIRCULATION:

2018-11-16

REFERENCE NUMBER OF THE CD:

31G/279/CD

IEC SC 31G : INTRINSICALLY-SAFE APPARATUS			
SECRETARIAT: United Kingdom		SECRETARY: Mr Nicholas Ludlam	CHAIR: Mr Manfred Kaiser
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 18		PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/>	
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY			

The chair (in cooperation with the secretariat and the project leader) has taken the following course of action:

A	<input checked="" type="checkbox"/>	A REVISED DRAFT WILL BE DISTRIBUTED AS A COMMITTEE DRAFT FOR VOTE (CDV) BY	2019-02-15
B	<input type="checkbox"/>	A REVISED DRAFT WILL BE DISTRIBUTED AS A COMMITTEE DRAFT (CD) FOR COMMENT BY	
C	<input type="checkbox"/>	THE COMMITTEE DRAFT AND COMMENTS WILL BE DISCUSSED AT THE NEXT MEETING ON	

In the case of a proposal A or B made by the chair, P-members objecting to such a proposal shall inform the Central Office with copy to the secretary in writing within 2 months of the circulation of this compilation (see ISO/IEC Directives, Part 1, 2.5.3).

TITLE:
Explosive atmospheres - Part 25: Intrinsically safe electrical systems

NOTE FROM TC/SC OFFICERS:

Annexes: Report of Comments, Comments received

Report of Comments on 31G/279/CD

Circulation Date: 2018-05-11

Closing Date: 2018-08-03

IEC 60079-25 ED3: Explosive atmospheres - Part 25: Intrinsically safe electrical systems

Country	Status	Comments	Received
Australia	P	Y	2018-08-03
Austria	O	N	2018-08-03
Belgium	P	N	2018-07-25
Brazil	P	N	2018-08-03
Bulgaria	O		
Canada	P	N	2018-07-27
China	P	N	2018-07-30
Croatia	P	N	2018-08-03
Czech Republic	O		
Denmark	P	N	2018-07-02
Finland	P	N	2018-07-05
France	P	N	2018-07-31
Germany	P	Y	2018-07-26
Greece	O	N	2018-07-26
Hungary	O		
India	O		
Indonesia	O		
Iran	P	N	2018-08-01
Ireland	P	N	2018-05-16
Italy	P	N	2018-08-02
Japan	P	Y	2018-07-23
Kazakhstan	-	N	2018-07-20
Korea, Republic of	P	N	2018-08-03
Malaysia	P	N	2018-08-03
Mexico	O	N	2018-08-02
Netherlands	P	N	2018-07-23
New Zealand	O		
Norway	P	N	2018-05-23
Pakistan	O	N	2018-08-03
Poland	O	N	2018-08-02
Portugal	-	N	2018-08-03
Romania	P	N	2018-07-26
Russian Federation	P	N	2018-08-03
Serbia	O		
Singapore	O		
Slovakia	O		
Slovenia	-	N	2018-07-19
South Africa	O		
Spain	P	N	2018-07-27
Sweden	P	Y	2018-07-30
Switzerland	P	Y	2018-07-19
Ukraine	P		
United Arab Emirates	-	N	2018-07-31
United Kingdom	P	N	2018-07-20
United States of America	P	Y	2018-07-24

	P-members	O-members	Non-members	Total
Y : comments received	6	0	0	6
N : no comments	19	5	4	28
- : no response	1	10	0	11

Notes

P-members with no response: Ukraine

*Comments rejected because they were not submitted in the IEC Comment form.

Date	Document	Project Nr.
	31G/279/CD	

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
SE				ge	Se are positive to the proposal		Noted, with thanks
JP	-	12 of Ed 2.0	5 th Para	te	12 and Annex F of Ed 2.0 is to be relocated to IEC 60079-14. However, the 5 th paragraph of 12 addresses an important item concerning the dielectric strength requirement for intrinsically safe circuit to earth, and this part should remain in IEC 60079-25.	Retain the 5 th paragraph of 12 in IEC 60079-25.	Accepted in principle. Added requirements of paragraph 5 and 6 into Clause 11.
AU-01	49	Foreword		Ge	The table of significance of changes should be completed for circulation with the CDV to allow NCs the opportunity to comment on the table.	Complete the significance of changes table for the CDV rather than waiting for FDIS.	Noted. The table cannot be prepared until the technical requirements of the standard are suitably stable.
DE-01	77	Foreword	B)	Ed	This clause is for the information about the background of all changes, where such information is helpful.	B) Information about the background of changes	See AU-01
DE-02	111	Scope	Para 1	Ed	Hazardous Locations require Group I, II or III equipment	Change 'apparatus' to 'equipment'	Accepted,
AU-02	115	1	Paragraph 3	ed	Suggested that "conflict" be replaced with "conflicts.	Change conflict to conflicts.	Accepted.
DE-03	115	1	3	ed	" ... a requirement of ... " is singular so it should say "conflicts"	conflicts	Accepted
US	115	1	2	Ed	Sentence reads oddly: "...requirement of this standard conflict with a..."	Change to: requirement of this standard <u>is in</u> conflict with a	Accepted in principle, see AU-02.
DE-04	122	1	Note 2	te	Note, link or reference to the according standard for Group I would be nice	NOTE 2 Group I installation requirements are presently not provided in IEC 60079-14. For Group I refer to IEC 80079-38, IEC 60079-0 and IEC60079-25	Accepted in principle. IEC 60079-0 and 80079-38 do not contain installation requirements and reference to 60079-25 is circular. Added: Installation requirements for Group I are being considered.

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DE-05	145	3.1.1		Ge	If 'intrinsically safe system' is the new agreed term (with deletion of 'electrical') this term should be used consequently throughout the standard, starting with the title of the standard	Revise the standard to exchange everywhere the term 'intrinsically safe electrical system' by 'intrinsically safe system'	Accepted in part. Title remains unchanged as this is an action requiring approval by SC 31G.
AU-03	146	3.1.1		Ge	Also see comments to Clause 4. A descriptive system document is not necessarily the only way to document the intrinsic safety of a circuit. And, particularly on large plants with many different IS loops, is often not the preferred means of documentation.	Delete “, described in a descriptive system document,” from the definition.	Not accepted, see AU-05.
AU-04	158	3.1.4		Ge	The system designer has many responsibilities beyond just drafting the descriptive system document. This term is only used once in the standard, in an informative annex, and is self-explanatory.	Delete the definition	Accepted
US	159	3.1.5	1	Te	The defined term is “maximum cable capacitance Cc” but the usage within the document is simply the amount of cable capacitance, not the maximum allowed to be connected. In section 9.3, this term is used to refer to the cable’s capacitance per meter. In 12.7.1 where it is stated that the sum of Ci and Cc shall be less than or equal to Co. In this case, Cc is referring to the total amount of cable capacitance in a proposed system (i.e. the per meter cable capacitance times the specific length of cable to be used in the system). Referring to Cc as the maximum cable capacitance that can be connect to an i.s. circuit is misleading. Additionally, we may need to define a separate term that is the cable capacitance per unit length to distinguish it from the total cable capacitance.	Revise this term to remove ‘maximum’. 3.1.5 maximum cable capacitance Cc maximum capacitance of the interconnecting cable that can be connected into an intrinsically safe circuit without invalidating intrinsic safety	Accepted in principle, Change to: total capacitance of the interconnecting cable connected into an intrinsically safe circuit

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US	164	3.1.6	1	Te	<p>The defined term is “maximum cable inductance Lc” but the usage within the document is simply the amount of cable inductance, not the maximum allowed to be connected. In section 9.3, this term is used to refer to the cable’s inductance per meter. In 12.7.1 where it is stated that the sum of Li and Lc shall be less than or equal to Lo. In this case, Lc is referring to the total amount of cable capacitance in a proposed system (i.e. the per meter cable inductance times the specific length of cable to be used in the system). Referring to Lc as the maximum cable inductance that can be connect to an i.s. circuit is misleading. Additionally, we may need to define a separate term that is the cable inductance per unit length to distinguish it from the total cable inductance.</p>	<p>Revise this term to remove ‘maximum’.</p> <p>3.1.6 maximum cable inductance Lc maximum inductance of the interconnecting cable that can be connected into an intrinsically safe circuit without invalidating intrinsic safety</p>	<p>Accepted in principle. Change to: total inductance of the interconnecting cable connected into an intrinsically safe circuit</p>
US	169	3.1.7	1	Te	<p>The defined term is “maximum cable inductance to resistance ratio Lc/Rc” but the usage within the document is simply the value of the cable inductance to resistance ratio, not the maximum allowed to be connected. In 12.7.1 where it is stated that the Lc/Rc must be less than Lo/Ro, Lc/Rc is simply the calculated ratio for the specific cable to be used, not the maximum allowed which is defined by the Lo/Ro limit. Referring to Lc/Rc as the maximum allowed is misleading.</p>	<p>Revise this term to remove ‘maximum’.</p> <p>3.1.7 maximum cable inductance to resistance ratio Lc/Rc maximum value of the ratio inductance (Lc) to resistance (Rc) of the interconnecting cable that can be connected into an intrinsically safe circuit without invalidating intrinsic safety</p>	<p>Accepted</p>

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AU-05	187	4	All	Te	<p>A descriptive system document is not necessarily the only way to document the intrinsic safety of a circuit.</p> <p>Particularly on large process plants with many different IS loops, descriptive system documents are often eschewed in favour of database arrangements showing the combination of associated apparatus and IS apparatus, with earthing and bonding and interconnecting wiring shown on the plant electrical drawings.</p> <p>At present this approach would not comply with IEC 60079-25.</p>	<p>Change the title of this clause to "Intrinsically Safe System Documentation"</p> <p>Change para 1 to: The technical justification for the combination of the equipment shall be documented for all intrinsically safe systems. The documentation shall include at least the following:</p> <p>Change a) to: identification of all items of apparatus in the system, including simple apparatus and interconnecting wiring;</p> <p>Change para 2 (after list) to: The requirements in clauses 5 through 12 shall be used to determine the contents of the documentation.</p> <p>Add new para (aligning with IEC 60079-14, with editorial changes): The form in which information necessary to ensure intrinsic safety should be kept is not stated precisely and may be covered by sources such as drawings, schedules, maintenance manuals, or similar documents. A suggested format for this information can be found in Annex E.</p> <p>Add after notes: NOTE 3: The above is not intended to suggest that every IS circuit in a process plant requires an individual document. Validation of the IS circuits can be achieved by assessments which represent the most onerous case of each IS system.</p>	<p>Not accepted.</p> <p>The MT considers that IEC 60079-25 described the process for creating a system document (for the purpose of system certification). In that instance a single document would be desired.</p> <p>However, the term "document" does not preclude the other means of recording the necessary information described in IEC 60079-14.</p>
DE-06	189	4	Para 1	Ed	To be consistent with the definition of the descriptive system document use apparatus instead of equipment	The descriptive system document shall include the technical justification for the combination of the apparatus and shall include at a minimum the following;	Accepted
DE-07	197	4	d)	te	Note, link or reference to the according standard containing specs for earthing would be useful!	197 d) details of the earthing and bonding points that intrinsic safety depends on of the systems NOTE Details of earthing acc. to IEC60079-0 and IEC60034-1	Not accepted, IEC 60034-1 is a standard for motors and would not often be applicable to earthing/bonding of IS circuits.

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DE-08	197	4	d)	ed	consider rewrite the sentence, the end of the sentence seems not to fit	details of the earthing and bonding points on that the intrinsic safe system depends on.	Accepted in principle, change to "details of the earthing and bonding points on which intrinsic safety depends."
DE-09	198	4	e)	ed	"shall be included does not need repetition from the leading para	Delete "shall be included"	Accepted
DE-10	202	4		ed	singular, plural	content	Accepted
DE-11	205	4	NOTE 2	ed	If comment on deletion of Figure E.2 is followed, the text of NOTE 2 should use singular instead of plural	Consider to change: Annex E comprises an example of typical diagrams, which illustrate the requirements of the descriptive system document.	Accepted in principle, made normative and reworded. Cannot be deleted as Annex E needs to be referred to in the normative text of the standard.
DE-12	208-211	5	1 st para	ed	Improve wording for clarity	208 These p Parts of intrinsically safe systems that are intended for use in an explosive atmosphere 209 shall be grouped in accordance with the equipment grouping requirements of IEC 60079-0. 210 and They shall be have assigned to a temperature class or have a maximum surface temperature or temperature class assigned in accordance 211 with the temperature requirements of IEC 60079-0 and IEC 60079-11.	Accepted in principle, second sentence changed to "They shall be assigned a temperature class or a maximum surface temperature ..."
DE-13	216	5	3	te/ed	Add "explicitly"	then this shall be specified in the descriptive system document explicitly .	Not accepted, does not add any additional requirement.
DE-14	219	6	Header	Ed	"shall have a Levels of Protection ..." Align with the definition in IEC 60079-0 and use the singular form and capital letters	"... shall have a Level of Protection ..."	Accepted, changed in first paragraph

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AU-07	220	6.1	Note	General	In the earlier edition of the Standard, a very important Note regarding the typical situation of ventilation failure in Group I conditions has now been removed. Suggest this be reinstated	Add Note (with editorial corrections to keep IEC editors happy) and to limit scope to Group I: NOTE: For Group I applications, a system can be "ib" in normal operation with external power, but when power is removed under defined safety circumstances (ventilation failure) then the system could become "ia" under back up battery power. The level of protection will be clearly defined for foreseeable circumstances.	Accepted in principle, reworded slightly
AU-06	222	6.1	Paragraph 1	ed	Suggested that "Levels" be replaced with "Level".	Change Levels to Level.	Accepted
AU-08	233 to 236	6.3	Paragraph 2 (note)	ed	Text of clause 6.3 note has editorial differences to 6.4 note. It is recommended that clause 6.3 note is aligned with 6.4 note for consistency.	NOTE For example, a Level of Protection "ia" field instrument powered via a Level of Protection "ib" associated apparatus would be considered as a Level of Protection "ib" system or a Level of Protection "ib" field instrument powered via a Level of Protection "ia" associated apparatus would also be considered as a Level of Protection "ib" system.	Accepted
DE-15	223 -224	6.1		ed	Change wording	223 The complete system 224 need does not necessarily have to have a single one common Level of Protection or a single common EPL.	Accepted in principle, reworded
AU-09	238 to 244	6.4	Paragraphs 1 and 2 (note)	ed	Text of clause 6.4 has editorial differences to 6.3. It is recommended that clause 6.4 is aligned with 6.3 for consistency.	Where the requirements applicable to apparatus of Level of Protection "ic" (see IEC 60079-11) 238 are satisfied by an intrinsically safe system or part of a system considered as an entity, then that system or part of a system shall be assigned a Level of Protection "ic". NOTE For example, a Level of Protection "ia" field instrument powered via a Level of Protection "ic" associated apparatus would be considered as Level of Protection "ic" system or a Level of Protection "ic" field instrument powered via a Level of Protection "ia" associated apparatus would also be considered as a Level of Protection "ic" system.	Accepted

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AU-10	246 to 252	7	All	te	<p>This clause states limits for the connection of circuits/supply to the non-intrinsically safe terminals of associated apparatus. This clause does not appear to align with IEC 60079-14 Clause 16.2.1 which refers to the limitations for the supply connected to equipment which is in turn connected to the non-intrinsically safe terminals of associated apparatus.</p> <p>"Electrical equipment connected to the non-intrinsically safe terminals of an associated apparatus shall not be fed with a voltage supply greater than Um shown on the label of the associated apparatus. The prospective short-circuit current of the supply shall not be greater than 1 500 A."</p> <p>AU believes that the requirement in 60079-25 at present is correct – the Um value is only applicable to the terminals of the associated apparatus, and not to the equipment which supplies the associated apparatus.</p>	<p>To clarify the technical requirement and location of application for these limits and either retain current text or update to align with IEC 60079-14 Clause 16.2.1.</p> <p>MT 60079-25 should recommend revised text for clause 16.2.1 para 5 to MT 60079-14:</p> <p>Non-intrinsically safe terminals of associated apparatus shall not be connected to a source of voltage greater than the Um value shown on the label of the associated apparatus. The prospective short-circuit current of the supply shall not be greater than 1 500 A.</p> <p>Additionally, MT 60079-25 should highlight the importance of maintaining Um to MT 60079-14, and suggest that requirements for verification of Um during installation and commissioning may be appropriate.</p>	<p>Accepted in principle, MT 60079-25 also notes that the Um value might not be shown on the label (i.e. for small components), change suggested text for 60079-14 to:</p> <p>Non-intrinsically safe terminals of associated apparatus shall not be connected to a source of voltage greater than the Um value specified for the associated apparatus. The prospective short-circuit current of the supply shall not be greater than 1 500 A.</p>
MT		7	All	Ge	MT discussed this clause and agreed that these are installation requirements for the system and belong (already are) in IEC 60079-14	Clause reworded appropriately.	Accepted
DE-16	255-258	8.1	1	ed	Split in two sentences for better understanding	<p>255 Either The intrinsic safety parameters of the interconnecting wiring upon which intrinsic safety depends and their derivations of these parameters shall be specified in the descriptive system</p> <p>257 document. If or a specific type of wiring cable shall be specified and the justification for its use shall be included</p> <p>258 in the documentation.</p>	Accepted
DE-17	259	8.1	2	te	All requirements are relevant in any way, but not all might be applicable	Cables for the interconnecting wiring shall comply with the relevant applicable requirements of Clause 9.	Accepted

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-18	265 -266	8.3	1	ed	Revise text to improve understanding	265 Where relevant, The descriptive system document shall also specify the permissible types of 266 multi-circuit cables as specified according to in Clause 9, which each if used for particular circuits. may utilize	Accepted
DE-19	267	8.3	1	ed	Revise text to improve understanding	267 particular case where faults between separate circuits have not been taken into account, then	Accepted
DE-20	270	8.3	1	ed	Revise text to improve understanding	270 other intrinsically safe circuits, then the multi-circuit cable shall be in accordance with the	Accepted
DE-21	274	8.3	Para 3	ed	Unclear sentence: Use 'intrinsically safe circuits' and put clear that having circuits assigned to different levels of protection is the issue.	Where intrinsically safe circuits assigned to different Levels of Protection "ia", "ib" or "ic" are run together...	Accepted in principle, "intrinsically safe" removed.
DE-22	277	8.3	Last para	Ed	Same as in line 274	Add: "circuits"	Accepted in principle, "intrinsically safe" removed.
DE-23	285	9.1	2	ed	Describe positive, replace "not be less than" with "at minimum"	284 the diameter of individual conductors or strands of multi-stranded conductors within 285 the hazardous area shall have a diameter of not be less than at least minimum 0,1 mm	Accepted
DE-24	287	9.1	2	Te	This clause now became valid for both "single" and multi circuit cables. The 0,2 mm insulation thickness in Ed. 2 only applied to multi-circuit cables. Is there a reason for a technical change?	Change 2 nd item in dot-list. <ul style="list-style-type: none"> The radial thickness of the insulation of each core of multi circuit cable shall be appropriate ... 	Accepted
DE-25	288 -289	9.1	Note	Te/ed	Split in two sentences for better understanding	288 NOTE This clause is not intended to prevent the use of bare conductors in a signalling system. and These are 289 considered as simple apparatus and not as interconnecting wiring.	Accepted

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DE-28	292 -297	9.2.1	1 st and 2 nd para	Te	<p>There is a conflict with the requirements of 9.2.1 and 6.3.13 of 60079-11 and a further conflict with 16.2.2.1 of 60079-14.</p> <p>60079-11 for insulation of intrinsically safe circuits to earth requires dielectric strength capability of twice the voltage of the I.S. circuit with a minimum of 500 V. So up to 250 V and not just 90V is the level where a higher dielectric strength is required. the CD for 7th Ed. puts clear that 500 Vrms or 700 V dc are the test voltages.</p> <p>60079-14 and 2nd Ed. of -25 require 500Vac and 750Vdc and leave of the rule to apply twice the voltage of the circuit using the higher one. There is furthermore the issue with conversion from Vrms to vdc which technically involves factor sqrt2 = 1,414, which leads more to require 500Vac or 700 Vdc, than rounding up to 750 Vdc (factor 1,5)</p>	<p>Line up the requirements with -11 and -14 using -11 as the master. Inform -14 to use factor 1,4 for conversion from Vrms to Vdc.</p> <p>Consider to replace para 1 and 2 with the following text to line up with -11 (7th Ed.):</p> <p>The insulation of cables used for intrinsically safe circuits shall be capable of withstanding a dielectric strength test with twice the voltage of the intrinsically safe circuit or 500 V r.m.s. (or 700 V d.c.) whichever is the greater.</p>	Accepted, changed in IEC 60079-25 and referred to MT 60079-14.
DE-26	292	9.2.1	1	ed/te	Different circuits may have different voltages	For intrinsically safe circuits with voltages not exceeding 90 V only insulated ...	Accepted in principle, see DE-28
DE-27	295	9.2.1	2	ed/te	Different circuits may have different voltages	For intrinsically safe circuits with voltages exceeding 90 ...	Accepted in principle, see DE-28
DE-29	302	9.2.2	a)		Wipe out a.c.	500 V r.m.s. a.c. or 700 V d.c. ...	Accepted
DE-30	304	9.2.2	b)		Wipe out a.c.	1000 V r.m.s. a.c. or 1400 V d.c. ...	Accepted
DE-31	308 -309; 310 -312	9.2.2	Note		Move NOTE after line 312	<p>310 If information from the cable manufacturer is not available, then the dielectric strength test</p> <p>311 shall be carried out in accordance with an appropriate cable standard or dielectric strength</p> <p>312 tests of IEC 60079-11.</p> <p>308 NOTE It is not a requirement of this standard that the conformity of the manufacturer's specification of the cable</p> <p>309 needs to be verified</p>	Accepted
AU-11	309	9.2.2	Note	ed	Add full stop after the word verified.	Add full stop after the word verified.	Accepted

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DE-32	311	9.2.2		te	Is there another standard besides 60079-11 which defined a test and which is accepted by 60079 groups?	NOTE Other sources of information is e.g. IEC60950, IEC61010, IEC60364-6	Not accepted, these are not cable standards, and there are many many potential cable standards. It would not be practical to list them all here.
US	313	9.3	All	Ed	This section should be rewritten to remove the use of the defined terms Cc, Lc, and Lc/Rc as they do not match the definitions.	<p>9.3 Intrinsic safety parameters of cables Determination of cable parameters The intrinsic safety capacitance, inductance, and inductance to resistance ratio parameters (Cc and Lc, or Cc and Lc/Rc) for all cables used within an intrinsically safe system shall be determined according to a), b) or c): a) the most onerous intrinsic safety parameters values provided by the cable manufacturer; b) intrinsic safety parameters determined by measurement of a sample, with using the method of testing intrinsic safety parameters of cables given in Annex A; c) where the interconnection comprises two or three cores of a conventionally constructed cable (with or without screen) the following values may be used: 200 pF/m and either 1 µH/m or an inductance to resistance ratio (Lc/Rc) calculated by dividing 1 µH by the manufacturers specified loop resistance per meter. Alternatively, for currents up to Ie 3 A an L/R ratio of 30 µH/Ω may be used.</p> <p>Where a FISCO system is used, the requirements for the cable parameters shall comply with Annex G.</p>	<p>HOLD Accepted in principle, to be replaced with text agreed between MT 60079-14 and MT 60079-25 for inclusion in both standards.</p>

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AU-12	318	9.3 b)	Paragraph 2	te	Annex A does not appear to detail a method of testing intrinsic safety parameters of cables. This was Annex G in ed 2 of IEC 60079-25 and is now Annex J of IEC 60079-14 ed 5.	Consider reference to IEC 60079-14 Annex J, however note this is an informative Annex. It is recommended that subclause b) be changed to the below and a Note referring to IEC 60079-14 Annex J be added to the end of clause 9.3. b) intrinsic safety parameters determined by measurement of a sample. NOTE: A method for testing intrinsic safety parameters of cables is given in the annex on "Determination of cable parameters" in IEC 60079-14.	HOLD Accepted in principle, to be replaced with text agreed between MT 60079-14 and MT 60079-25 for inclusion in both standards.
DE-33	332 -334	9.5.1		ed	Improve text	332 Multi-circuit cables shall be type A, type B or type C for the purposes of applying considerations and 333 assessing the safety of the cabling within an intrinsically safe system. The cable types are 334 specified in 9.5.2, 9.5.3, and 9.5.4.	Not accepted, MT considers original text to be clearer.
DE-34	347 -349	11		te	Note, link or reference to the according standard containing specs for earthing would be useful!	Below the para add: NOTE Details of earthing acc. to IEC60079-0 and IEC60034-1	Not accepted, see DE-07.
DE-35	357	12.1	c)	te	Some devices do not specify all parameters U_i , I_i and P_i as they are not always relevant. So use sentence from Annex A point e) also here as it is a general issue and not only related to simple circuits.	Add to the end of c): Occasionally the safety of the devices is completely specified by only one of these parameters. In these circumstances the unspecified parameters are not relevant.	Accepted in principle, added as a note.
DE-36	368	12	Last para	Te	All multi-circuit cables must have the dielectric strength according to 9.22, including type C cable. Why to consider faults for Level of Protection "ic" when a cable is used with sufficient insulation?	Delete this para.	Not accepted. This assessment is consistent with -11 and Type C cable rarely exists in practice.
AU-13	414	12.5.2	Paragraph 1	ed	"Intrinsically safety sources"	Replace "... non-linear intrinsically safety ..." with "... non-linear intrinsically safe ..."	Accepted
DE-37	414	12.5.2	1 st para	ed	"intrinsically safety" is not a correct term	Change to: "... non-linear intrinsically safe sources of power	Accepted

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
JP	418-419 632-635	12.5.2 Annex B	3 rd Para 14 th Para	te	<p>There are two issues on these descriptions which should be improved.</p> <ul style="list-style-type: none"> - As for the 3rd paragraph of 12.5.2, it is not clear what kind of assessment shall be done additionally. - Even for linear sources, it is not always assured that the current-limiting resistor is used in the way that complies with 7.1 of IEC 60079-11, when both U_o and I_o of a safety barrier significantly exceed those of the other safety barrier where the both safety barriers are connected in parallel. This may apply also to the voltage-limiting components. 	<p>Remove these paragraphs, and add the following after the NOTE of line 394 instead.</p> <p>When both U_o and I_o of a power source exceed those values of the other safety barriers connected to the same circuit, the voltage-limiting components and current-limiting components used in the power sources shall satisfy the requirements for the component ratings in accordance with IEC 60079-11 for the expected connections. When more than two power sources are connected to a circuit, any combinations of the connected power sources also shall be considered.</p>	<p>Not accepted. The MT recognises that this could be an issue, however the system designer would need to have all details on the equipment involved in the assessment.</p> <p>Realistically only the manufacturer of the associated apparatus could do this assessment.</p>
DE-38	424	12.5.2	4 th para	ed	" ... result in failure of the spark ignition test" is miserable wording	Change to: ... result to fail the spark ignition test	Accepted in principle, changed to "... will pass the spark ignition test ..."
DE-39	436	12.5.2	NOTE 2	ed	Missing "in"	436 non-linear sources of power in systems containing both linear and non-linear sources ...	Accepted in principle, delete offending text.
De-40	446	12.6	Para 1	Ed	Simple apparatus is not used in an IS circuit but in an IS system.	Simple apparatus used in an intrinsically safe system shall comply...	Accepted
US	452	12.7.1	1	Ed	This sentence should be changed to include cases where there are multiple loads with C _i values.	The sum of <u>all</u> C _i <u>values</u> and C _c shall be less than or equal to C _o .	Accepted in principle, "values" not added
DE-41	453	12.7.1		te	Is it true, that L _i can be disregarded if L _i /R _i < L _o /R _o ? Or same for L _c ? I could not see that this equals to Ed 2. Annex D. From there it seems that if the ratio is used for L _i , then also the ratio for cable shall be used. Please clarify	The sum of L _i and L _c shall be less than or equal to L _o except as follows: Where L _c /R _c and L _i /R _i are less than or equal to L _o /R _o	Accepted in principle, text reworded.
US	453	12.7.1	1	Ed	This sentence should be changed to include cases where there are multiple loads with L _i values.	The sum of <u>all</u> L _i <u>values</u> and L _c shall be less than or equal to L _o except as follows:	Accepted in principle, "values" omitted.
AU-14	456	12.7.1		Ge	Clause reference to 12.7.3 is incorrect. Additionally, the paragraph should not allude to the requirement in the referenced paragraph.	Remove "by half" and change reference to 12.7.4.	Accepted in principle, see also US comment.

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
US	456	12.7.1	3	Te	<p>This is confuddling to me. It says: "The values of C_o and L_o might need to be reduced by half based on 12.7.3." Section 12.7.3 talks about increasing values of C_o and L_o by 2X. So, let's say that you multiply by 2X because you apply the 1.0 safety factor to ia/ib equipment as stated in 12.7.3. Now we are saying here in this paragraph that if you have done that, then you need to reduce by 1/2 - this negates your initial increase! I don't think that this is what we *really* mean. Considering that an installer may have an ia/ib piece of equipment and then later on in life may replace it with an ic piece of equipment, maybe we were thinking that you'd then need to consider that the values had been increased by 2X and then would need to be decreased? Wouldn't the installer just be utilizing the ic values as stated on the certificate, especially since this increase would have been documented in the system document?</p>	<p>Delete this part of the sentence: "The values of C_o and L_o might need to be reduced by half based on 12.7.3."</p> <p>Or restate sentence: "The values of C_o and L_o might need to be recalculated based on 12.7.3."</p>	<p>Accepted in principle, see AU-14.</p>
US	467	12.7.4	1, 2	Ed	<p>This section includes the use of undefined terms and should be rewritten for clarity. The second paragraph should be deleted since it repeats requirements already contained in 12.7.1.</p>	<p>12.7.4 Effect of combined lumped capacitance and inductance</p> <p><u>Where the total of all apparatus C_i values exceeds 1% of the circuit's C_o value and the total of all apparatus L_i values exceeds 1% of the circuit's L_o value, Where a system contains both lumped inductance L_L (the sum of L_i for all apparatus connected to an intrinsically safe circuit) and the lumped capacitance C_L (the sum of all C_i of apparatus connected to the intrinsically safe circuit) whereby both the lumped inductance exceeds 1% of the circuit's L_o, and the lumped capacitance exceeds 1% of the circuit's C_o, then the permitted C_o and L_o of the circuit shall both be reduced by half, and the C_o of the circuit shall be further limited to a maximum of 1 μF for Groups I, IIA, IIB and III, and 600 nF for Group IIC.</u></p> <p>Where a system is powered from a single power source specified with permissible pairs of C_o plus L_o values these values shall not be exceeded by the sum of all C_i plus C_o and the sum of all L_i plus L_o in the system.</p> <p>Alternatively, the combination may be spark ignition tested in accordance with IEC 60079-11.</p>	<p>Accepted in principle, retain deleted paragraph</p>

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-42	468 -474	12.7.4	Text	ed	Revise text to improve understanding Wiped out and inserted	468 Where a system contains both lumped inductance L_L (the sum of L_i for all apparatus 469 connected to an intrinsically safe circuit) and the lumped capacitance C_L (the sum of all C_i of 470 all apparatus connected to the an intrinsically safe circuit), whereby both the lumped inductance L_L 471 exceeds 1% of the circuit's L_{oT} and the lumped capacitance C_L exceeds 1% of the circuit's C_o , 472 then the following shall be applied: The maximum permitted C_o and L_o of the examined circuit shall both be reduced by to half its value. and Further the C_o of the examined 473 circuit shall be further limited to a maximum not exceed of 1 μ F for Groups I, IIA, IIB and III, and 600 nF 474 for Group IIC.	Not accepted, see US comment.
DE-43	475	12.7.4	2 nd para	Te	It needs to be sure that the provided values are for combined connection of L and C	Modify to: Where a system is powered from a single power source specified with permissible pairs of C_o plus L_o values as lumped parameters these values...	Not accepted, MT considered the existing text to be clearer.
US	477			Ed	We are having issues keeping our subscripts in a consistent font size throughout the document. One example is here: "all L_i plus L_C in the system." Where the 'c' subscript is not the same font size as the one used in C_c in the previous sentence.	Promise me that we're gonna fix that before publishing cause, ya know while it doesn't detract from the meaning, we're professionals and all. :)	Noted, we will do everything within our power to rectify this.
DE-44	479	12.7.5		Ed	The proposal agreed at the last meeting has not been properly incorporated. The formula is corrupt.	The permitted cable capacitance C_c is determined by the lumped capacitance C_L subtracted from the permitted output capacitance C_o . That is: $C_c = C_o - C_L$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.
DE-45	480 -485	12.7.5 12.7.6	Text	ed	Consider writing both chapters similar. Rewriting Line 484 and 485 The text should fit the formula	Unless the L_o/R_o parameter is used, the permitted cable inductance L_c is determined by the sum of all apparatus input inductance L_i subtracted from the calculated circuit permitted output inductance L_o . That is:	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.

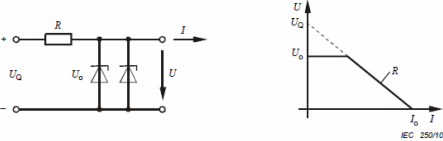
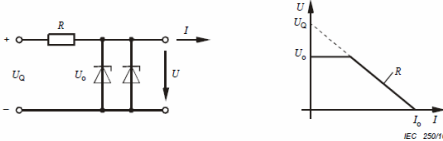
MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
AU-15	480 to 482	12.7.5	-	ed	Formula is incorrect. Text should also be revised to better align with 12.7.6.	The permitted cable capacitance C_c is determined by subtracting the lumped capacitance C_L from the calculated circuit permitted output capacitance C_o . That is: $C_c = C_o - C_L$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.
DE-46	482	12.7.5	Formula	te/ed	Add formula for lumped capacitance	$C_L = \sum C_i$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.
US	482	12.7.5	Formula	Ed	The formula for determining permitted cable capacitance is incorrect: $L_c=L_o-\sum L_i C_c C_o - C_L$	The permitted cable capacitance C_c is determined by <u>subtracting the sum of all apparatus C_i values</u> the sum of all apparatus input capacitance C_i subtracted from the calculated circuit permitted output capacitance C_o . That is: $L_c=L_o-\sum L_i C_c C_o - C_L$ $C_c = C_o - \sum C_i$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.
US	483	12.7.6	1	Ed	This section uses an undefined term (lumped inductance L_L). Rewrite using defined terms and align with 12.7.5.	Unless the L_o/R_o parameter is used, the permitted cable inductance L_C is determined by <u>subtracting the sum of all apparatus L_i values</u> the lumped inductance L_L subtracted from the permitted output inductance L_o . That is: $L_c = L_o - L_L$ $L_C = L_o - \sum L_i$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.
AU-16	484 to 485	12.7.6	-	ed	Suggest update to align with change to 12.7.5	Unless the L_o/R_o parameter is used, the permitted cable inductance LC is determined by subtracting the lumped inductance LL from the permitted output inductance L_o . That is: $LC = L_o - LL$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.
DE-47	486	12.7.6	Formula	ed	Add formula for lumped inductance	$L_L = \sum L_i$	Accepted in principle, 12.7.5 and 12.7.6 deleted as they are covered by 12.7.1.

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
US	487	12.7.7	All	Ed	Rewrite to remove the undefined terms and enhance clarity.	<p>12.7.7 Determination of L/R</p> <p>The use of the L/R parameter is permitted only when the C_L <u>sum of all apparatus C_i values</u> is less than <u>or equal to</u> 1% of C_o.</p> <p>If the L_L <u>sum of all apparatus L_i values</u> of the circuit is less than <u>or equal to</u> 1% of the L_o, then the permitted cable L_C/R_C limitation is equal to the power source(s) L_o/R_o ratio.</p> <p>For the case where the L_L <u>sum of all apparatus L_i values</u> is greater than 1% of the L_o, the system is powered from a single linear source, and the apparatus has a well-defined inductance and resistance either by virtue of its documentation or construction, then the procedures in Annex D may be used to determine the applicable L_C /R_C ratio, or increase the permitted cable inductance L_C.</p> <p>For systems with more than one power source where the L_L <u>sum of all apparatus L_i values</u> exceeds 1% of the sources combined L_o then no L_o /R_o ratio can be determined, and the cable shall adhere to the L_C limit.</p> <p>Where a system has a single linear power source and well-defined inductance and resistance either by virtue of its documentation or construction, then the safety of the inductive aspects of the system may be confirmed by the process defined in Annex D .</p>	Accepted
DE-48	491	12.7.7		ed	Revise text to improve understanding Wiped out and inserted	<p>491 If For the case where the L_L is greater than 1% of the L_o, the system is powered from a single</p> <p>492 linear source, and the apparatus has a well-defined inductance and resistance either by virtue</p> <p>492 of its documentation or construction, then the procedures in Annex D may be used to</p> <p>493 determine the applicable L_C /R_C ratio, or to increase the permitted cable inductance L_C.</p>	Accepted in principle, see also US comment

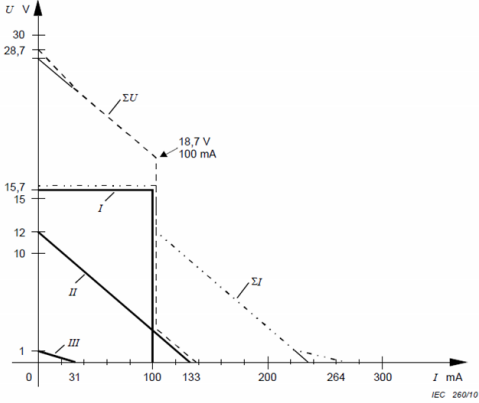
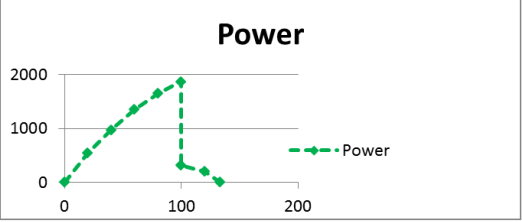
MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-49	495 -497	12.7.7		te	Add apostrophe behind sources to show that it is a combination out of several sources	495 For systems with more than one power source where the L_L exceeds 1% of the sources' 496 combined L_o then no L_o / R_o ratio can be determined, and the cable shall adhere to the L_c 496 limit.	Accepted
DE-50	499	12.7.7		ed	Wiped out	either by virtue of its documentation or construction, then the safety of the inductive aspects	Accepted
AU-17	500	12.7.7	Paragraph 5	ed	Remove space before full stop.	Remove space before full stop.	Accepted
AU-18	501	12.8	All	Ed	References back to 9.5.2-9.5.4 and separate clauses here are unnecessary.	Change all of 12.8 to: The faults, if any, which shall be taken into consideration in multi-circuit cables used within intrinsically safe electrical systems depend upon the type of cable used, as defined in 9.5. For Type A and Type B cables, no faults between circuits shall be taken into consideration. For Type C cables, faults comprising two short circuits ...	Accepted in principle, first paragraph reworded and made into bulleted list. Reference to 12.8.4 elsewhere in the document changed to 12.8.
DE-51	503 -504	12.8.1			Wipe out "if any" because the conditions are mentioned in subchapters below	503 The faults, if any , which shall be taken into consideration in multi-circuit cables used within 504 intrinsically safe electrical systems depend upon the type of cable used.	Accepted in principle, text reworded.
DE-52	510	12.8.4		Te	It should be discussed if this condition is applicable for Level of Protection "ic" in full, or if the insulation requirements that such a cable must fulfil acc. 9.2.2 is sufficient to eliminate the fault consideration. At least short circuits between conductors should not be considered.	Add a sentence of relaxation for "ic", e.g. If all circuits in a multi-circuit cable are classified as Level of Protection "ic", no faults are considered.	Not accepted, this subject is under discussion in MT 60079-11 at this time. MT also notes that the requirements for Type B cables are not at all onerous in order to avoid this.
DE-53	510	12.8.4		te	Add "up to", maybe a lower number of faults lead to a most onerous condition	For cables complying with 9.5.4, faults comprising up to two short circuits between conductors ...	Accepted
US	522			Ed	Pg. 20 is blank	Delete pg. 20	Accepted
DE-54	530	Annex A		ed	It is the Annex and not the whole standard illustrating the method	This Annex uses the combination of the temperature transmitter and the ...	Accepted

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-55	541 -545	Annex A	a)	te	If the values for lower level groups (here: IIA and IIB) are not provided, it should be permissible to derive those from the curves and tables of 60079-11 A Note would be helpful here...	[after line 545] NOTE Where such lower level values for Lo, Co are not specified in the certificate, they can be derived from 60079-11, Annex A, Figures A.3 and A.4 or Table A.2 for resistively limited power sources. There is no such Lo/Ro table in 60079-11	Not accepted. The manufacturer might specify additional values and have their product recertified if they are completing the system assessment. The MT would consider it inadvisable to permit others to assign new output parameters to equipment as they will not have all of the necessary information available.
DE-56	546	Annex A	b)	Ed	Use capital letters for level of protection	Levels of Protection	Accepted
DE-57	550	Annex A	b)	ed	Replace “:” by “.” at the end of line	becomes “ic”:-.	Accepted
AU-19	550	Annex A, b)	-	ed	Replace colon with full stop after “ic”	“ic”.	Accepted
DE-58	551	Annex A	c)	Ed	The equipment in an IS system, mounted in the hazardous area is the IS apparatus. Therefore use this term instead of ‘equipment’.	c) Determine the temperature classification of the intrinsically safe apparatus mounted...	Accepted
DE-59	556	Annex A	d)	Ed	Only the IS apparatus carries a Temperature class marking.	d) The permissible ambient temperature range of each piece of intrinsically safe apparatus should be recorded.	Not accepted, this is referring to ambient temperature range, not to T class.
DE-60	564 -565	Annex A	g)	te	Note to chapter of earthing (11)	NOTE Details of earthing acc. to IEC60079-0 and IEC60034-1	Not accepted, see earlier comments.
DE-61	570	Annex A	Table A.1	ed	Result of Lc is confusing because the Li of the transmitter is small.	Consider Lc: 4,19 mH as result	Accepted
DE-62	624	Annex B		Ed	‘Hazardous area apparatus’ is not defined. Better is IS apparatus.	The intrinsically safe apparatus may contain a power source, ...	Accepted in principle, use “apparatus” only.
DE-63	654	Annex C	C.1	Ed	This Annex C is for IS circuits only (linear or non-linear). Therefor it is only for guidance on the assessment of electronic circuits and not apparatus.	Delete “or apparatus” at the end of the first sentence.	Accepted

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-64	663-664	Annex C	C.2 a)	Ed	It is confusing to give information about trapezoidal characteristic under Linear and giving other conditions of application ($U_o \geq U_Q$ versus $U_o > 0,5 * U_Q$)	Delete 2 nd sentence for clarity: 663 Resistive limited outputs with a linear characteristic as shown in Figure C.1a. This is 664 equivalent to the trapezoidal characteristic of Figure C.1b with $U_o \geq U_Q$. Here:	
DE-65	675	Annex C	C.2 c)	Ed	The sophisticated information given by the second sentence similar to that in a) does not add much value.	Delete 2 nd sentence for clarity	Accepted
DE-66	697-698	Annex C	C.2	Te	60079-11 addresses fault conditions in the assessment of U_o and I_o , however for limitation by controlled semiconductors allows that these values are exceeded for a transient conditions provided the released energy is limited to the permissible values. With this, "including during transients" conflicts with 60079-11.	Modify the sentence and delete the conflicting "including during transients" 697 For the purposes of the assessment, U_o and I_o are maximum values that can occur under the 698 fault conditions, including during transients, as defined in IEC 60079-11.	Accepted
DE-67	709	Annex C	C.2	ed	Insert formula to show the derivation of calculation.	$P_o = \frac{1}{4} * 12,5 V * 0,1 A = 313 mW$	Not accepted, these are given values and the succeeding paragraph tells the user what can be deduced from them.
DE-68	715	Annex C	C.2	ed	Insert formula to show the derivation of calculation.	$P_o = 20,5 V * 35 mA = 718 mW$	Not accepted, these are given values and the succeeding paragraph tells the user what can be deduced from them.
DE-69	723	Annex C	C.2	Ed	The term 'test certificate' is not defined. The sentence needs to be corrected grammatically	Revise text as: In the case of a trapezoidal characteristic, the information in the test certificate is often not sufficient to determine the output current / voltage the characteristic as the third parameter (either U_Q or R) is missing (see Table C.1)	Accepted in principle, change to "manufacturer's documentation"
DE-70	727	Annex C	C.2	Ed	The term 'test certificate' is not defined.	Delete 'test' and change to ...given in the certificates.	Accepted in principle, change to "manufacturer's documentation"
DE-71	729	Annex C	C.2	Ed	The term 'test certificate' is not defined.	Delete 'test'	Accepted in principle, change to "manufacturer's documentation"

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-72	732-741				<p>Show figures at the beginning of the example to signalize clearly where the resistor is placed (rather than saying only that it has to be somewhere).</p> 	<p>Maximum values (trapezoidal characteristic):</p>  <p> $U_0 = 13,7 \text{ V}$ $I_0 = 105 \text{ mA}$ $P_0 = 1\,010 \text{ mW}$ </p> <p>The characteristic represented is shown in Figure C.2a; and Figure C.2b show the safety equivalent circuit.</p> <p>Calculation is as follows: $U_Q = I_0 \times R = 46 \text{ V}$ and $P_0 = (U_Q - U_0) \times U_0/R = 1\,010 \text{ mW}$ </p>	Accepted
DE-73	800	Annex C	C.4	Ed	Grammatically incorrect.	<p>Re-write to:</p> <p>Once ..., the next steps are to determine whether the circuit is intrinsically safe and to define an overall C_0 and L_0, taking...</p>	Accepted
CH1	814		Table C2	ed	Table is separated by pagination		Noted, will be addressed before FDIS.
DE-74	817	Annex C	C.4 4 th para	ed	<p>... less and 1,5 but greater than 1,0 ... makes no sense; Furthermore this paragraph should be placed above Table C.2</p>	<p>Correct to: ... less than 1,5 but greater than 1,0 ...</p> <p>Move para up to be above Table C.2</p>	Accepted

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-75	835-841	Annex C	C.4	te/ed	Text is not easy to understand. Perhaps only experts who wrote this can understand what they are saying here. The process to readout the maximum C_0 is described not clearly.	<p>The summation characteristic curve obtained from the combination of the single linear source's and the rectangular source's characteristics considering C.3 serves as characteristic of the resulting circuit. After drawing the summation characteristic curve into the diagram, the permissible maximum value of capacitance C_0 can be determined from the diagram as the value of the limit curves, which is not cut by the summation characteristic.</p> <p>[new line] If a higher permissible capacitance C_0 is required for the purpose of an application, then this can be obtained by starting with a diagram for a lower inductance.</p> <p>[new line] The same approach can also be used where the resultant output characteristic intersects the curve for the inductive limit of the linear or rectangular source.</p> <p>[new line, keep the old text here] If, even for the smallest inductance value in the diagrams (0,15 mH), the relevant limit curve(s) is (are) exceeded in the IIC diagram, then the use of the IIB diagrams is recommended. If these limits are also exceeded, then the combination is not intrinsically safe for explosion group IIB either.</p>	Accepted in principle, text reworded for further clarity.
DE-76	903	Annex C	C.6	Ed	For better understanding, the sentence should be re-worded.	In order to check the intrinsic safety, the two sum characteristics are drawn in Figure C.8b (explosion Group IIB, $L = 0,5$ mH), with the result shown in Figure C.6a and Figure C.6b.	Accepted.

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat																														
DE-77	907	Annex C	C.6	te	<p>Can anybody derive an additional power curve in the diagram here?</p> <p>A power diagram should be added to assist the text.</p>	<table border="1" data-bbox="1283 209 1827 549"> <tr> <td><i>U</i> [V]</td> <td>28,7</td> <td>26,9</td> <td>24,4</td> <td>22,5</td> <td>20,7</td> <td>18,7</td> <td>3,1</td> <td>1,7</td> <td>0</td> </tr> <tr> <td><i>I</i> [mA]</td> <td>0</td> <td>20</td> <td>40</td> <td>60</td> <td>80</td> <td>100</td> <td>10</td> <td>12</td> <td>13</td> </tr> <tr> <td><i>P</i> [mW]</td> <td>0</td> <td>538</td> <td>976</td> <td>1350</td> <td>1656</td> <td>1870</td> <td>317</td> <td>207,6</td> <td>0</td> </tr> </table>   <p data-bbox="1283 1246 1821 1297">Correct the maximum power value in line 907 from 1,9 W to 1,87 W</p>	<i>U</i> [V]	28,7	26,9	24,4	22,5	20,7	18,7	3,1	1,7	0	<i>I</i> [mA]	0	20	40	60	80	100	10	12	13	<i>P</i> [mW]	0	538	976	1350	1656	1870	317	207,6	0	<p>Accepted in part</p> <p>The MT did not feel that the power curve added value to the example.</p>
<i>U</i> [V]	28,7	26,9	24,4	22,5	20,7	18,7	3,1	1,7	0																												
<i>I</i> [mA]	0	20	40	60	80	100	10	12	13																												
<i>P</i> [mW]	0	538	976	1350	1656	1870	317	207,6	0																												

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-78	912 -915	C.6		Te/ed	<p>Is interpolation allowed? The single value 400nF cannot be detected in the example diagram!</p> <p>Which curve has to be taken (dashed or straight one)?</p> <p>Here the comparison between the result of the diagrams and 60079-11 table leads to a difference of over 50%! It should be made clear which value has to apply for the combination. Is this still acceptable?</p>	<p>Since both resultant characteristics of the combination do not intersect the inductive limit curves for the linear and rectangular sources in Figure C.6a and Figure C.6b, the safety test has come out positively. For the maximum voltage (28,7 V) of the resultant characteristic in the present example, the maximum permissible capacitance of the combination from the family of curves in Figure C.6b can be read off to be 400 nF.</p> <p>NOTE The value 400 nF cannot be derived from the limit curves directly. The value between two limit curves can be interpolated roughly.</p> <p>The graphically derived value resulting of the process above outputs a certain value, which has to be checked against the permissible capacitance value according to Table A.2 of IEC 60079-11 for that equipment Group. The graphically derived value in any case has to be less or at maximum equal to value of that table. If this criteria is not fulfilled the graphically derived value has to be set to the Group table value.</p> <p>NOTE If the permitted capacitance corresponding to the voltage and the equipment Group table of IEC 60079-11 is checked for the value 28,7 V for Group IIB, the permissible value of capacitance is 618 nF which is higher than the value of 400 nF determined graphically. The criteria mentioned above is fulfilled here and 400 nF is the maximum capacitance value for the interconnectionco.</p>	<p>Accepted in principle, editorial changes made.</p>
DE-79	940 -943	Annex C	C.7		<p>After Figure 9 was deleted and the “optimized scale” figures of C.7 and C.8 as well, most of the text of the 1st para of C.7 is useless.</p>	<p>Reduce 1st para to: The following pages contain the limit diagrams of Table C.2.</p>	<p>Accepted</p>

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-80	991-992	Annex D	4	ed	Revise for clarity	If Li is less than Lo, then the permitted maximum inductance of the cable may be taken, as is the difference between the two values: Lo – Li. With that value and the system is is- will be acceptable.	Accepted
DE-81	1011	Annex D		Ed	The unit for inductance is wrong in the formula Compare with 60079-11 on Lo/Ro	Change µH to H	Accepted
DE-82	1013	Annex D		ed	Measurement units in capital letters	... Microjoules [µJ] ...	Style guide to be checked offline
DE-83	1018	Annex D		ed	Measurement units in capital letters	... Ohms [Ω] ...	Style guide to be checked offline
DE-84	1019	Annex D		ed	Measurement units in capital letters	... Volts [V] ...	Style guide to be checked offline
DE-85	1020	Annex D		ed	Measurement units in capital letters	... Henries [H] ...	Style guide to be checked offline
DE-86	1025	Annex D	Figure D.1	Ed	The formula to calculate the current uses the wrong index for the current	According the description in line 1000-1001 the current calculated is 'I' and not 'Io'.	Accepted, however may not be able to change Figure. Consult with IEC CO offline.
AU-20	1033	Annex E	Title	Ed	This annex describes a suggested format for a descriptive system document but doesn't use the term in the title.	Change title to: Example format for a descriptive system document	Accepted
DE-87	1044	Annex E		te	Declaration of abbreviation RTD is missing,	... RTD (resistance temperature detector) ...	Not accepted, MT considers that RTD is a commonly understood term.
DE-88	1049	Annex E		ed	Take naming according to drawing	The temperature transmitter is certified apparatus and ...	Accepted
DE-89	1050-1052	Annex E		ed	Identify cable where something is taking effect.	1050 ... The input capacitance at terminals B 1051 marginally changes the permitted cable capacitance for cable y (Fig. E.1) , and the permitted ambient temperature 1052 range ensures that the transmitter is suitable for plant mounting in most locations.	Accepted
DE-90	1054-1055	Annex E		ed	Add group in the text where it is restricted for.	1054 The restrictive cable parameter is the 80 nF cable 1055 capacitance (Group IIC), which is highlighted in the note under the document number.	Accepted

MB/N C	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment	Comments	Proposed change	Observations of the secretariat
DE-91	1074	Annex E	Fig. E.1	te	Po of temperature transmitter has to be in [W]	Change "mV" into "mW"	Accepted, to be actioned offline [CDC]
AU-21	1076	Annex E	Figure E.2	ed	Figure is upside down on page.	Rotate to correct position.	Noted, figure deleted
DE-92	1076	Annex E	Fig. E.2	ed	Orientation of Figure wrong and Figure separated from its Title	Change the orientation and place Title underneath Figure	Noted, figure deleted
DE-93	1076	Annex E	Fig. E.2	ed	Shouldn't this Figure "Typical installation drawing.. " be moved to 60079-14 and deleted in -25	Consider if Fig. E.2 can be deleted	Accepted
AU-22	1084	Annex E	Figure E.2	ed	Figure title not located beneath figure on the same page.	Relocate to correct page and beneath the figure.	Noted, figure deleted
DE-95	1190	Annex G	G.2.1	Ed	What about dust areas IIIA and IIIB?	Change to: ...5 km in I, IIB and III.	Accepted
DE-96	1193	Annex G	Note 1	Ed	Multicore cables is the wrong term	Use multi-circuit cables instead.	Accepted
DE-97	1205	Annex G	G.2.1	Ed	Levels of protection is a fixed term, using capital letters	Levels of Protection	Accepted
DE-94	1176, 1182, 1239	Annex G	G.1 G.2 G3, Fig. I.1	ed	Fig. I.1 is obviously wrong	Change all instances to: Fig. G.1	Accepted